

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;
a position memory for storing communication target positions;
a processor coupled to the position memory, the processor operable to track communication targets by the communication targets transmitting updated updating the communication target positions based on updated communication target positions received in an a communication uplink during an assigned uplink time slot associated with a respective communication target; and
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an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions.

2. (Currently Amended) A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;
a position memory for storing communication target positions;
a processor coupled to the position memory, the processor operable to track communication targets by the communication targets transmitting updated updating the communication target positions based on updated communication target positions received in an a communication uplink during an assigned uplink time slot associated with a respective communication target; and
an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating the updated communication target positions.

3. (Currently Amended) A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

a processor coupled to the position memory, the processor operable to track communication targets by the communication targets transmitting updated updating the communication target positions based on updated communication target positions received in an a communication uplink during an assigned uplink time slot associated with a respective communication target; and

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating updated communication target positions comprising latitude and longitude positions.

4. (Currently Amended) A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

a processor coupled to the position memory, the processor operable to track communication targets by the communication targets transmitting updated updating the communication target positions based on updated communication target positions received in an a communication uplink during an assigned uplink time slot associated with a respective communication target;

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions; and

a predetermined time division multiplexed access schedule for updating communication targets;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating updated communication target positions in accordance with the access schedule.

5. (Currently Amended) A method for providing communication bandwidth with a communication satellite, the method comprising:

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reading communication target positions from a position memory;

steering an electronically steered antenna in accordance with the target positions;

receiving a transmission of updated communication target positions in an a communication uplink during an assigned uplink time slot associated with a respective communication target; and

tracking communication targets by updating the communication target positions based on updated communication target positions.

6. (Original) The method of claim 5, wherein receiving comprises receiving latitude and longitude positions.

7. (Currently Amended) A method for providing communication bandwidth with a communication satellite, the method comprising:

reading communication target positions from a position memory;

steering an electronically steered antenna in accordance with the target positions;

receiving a transmission of updated communication target positions in an a communication uplink during an assigned uplink time slot associated with a respective communication target; and

tracking communication targets by updating the communication target positions based on updated communication target positions and steering in accordance with a predetermined time division multiplexed access schedule for communication targets.

8. (Currently Amended) A communication system comprising:

a plurality of mobile cells, including a first cell assigned to a single first communication target and a second cell assigned to a single second communication target;

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a position memory storing a first cell position determined by an uplink transmission during an assigned uplink time slot from the first communication target and associated with the first cell and a second cell position determined by an uplink transmission during an assigned uplink time slot from the second communication target and associated with the second cell;

an electronically steerable antenna for generating the first cell and the second cell; and

an antenna controller coupled to the antenna and the position memory, the antenna controller steering the antenna in accordance with a predetermined access schedule.

9. (Currently Amended) A communication system comprising:

a plurality of mobile cells, including a first cell assigned to a single first communication target and a second cell assigned to a single second communication target;

a position memory storing a first cell position determined by an uplink transmission during an assigned uplink time slot from the first communication target and associated with the first cell and a second cell position determined by an uplink transmission during an assigned uplink time slot from the second communication target and associated with the second cell;

an electronically steerable antenna for generating the first cell and the second cell; and

an antenna controller coupled to the antenna and the position memory, the antenna controller steering the antenna in accordance with a predetermined access schedule, the antenna controller being further responsive to an updated first cell position from the first communication target to steer the antenna to the updated first cell position, the updated first cell position replacing the first cell position in the position memory.

10. (Original) The communication system of claim 9, wherein the antenna controller is responsive to an updated second cell position from the second communication target to steer the antenna to the updated second cell position, the updated second cell position replacing the second cell position in the position memory.

11. (Original) The communication system of claim 9, wherein the predetermined access schedule is a time division multiplexed access schedule.

12. (New) The communication path processing system of claim 1, being operative to redirect the antenna to a second communication target in response to a communication target position update from a first communication target.

13. (New) The communication path processing system of claim 12, being operative to redirect the antenna to a second communication target for one of a predetermined time and until a command to return back to the original communication target is received by the communication path processing system.

14. (New) The communication path processing system of claim 1, being operative to provide a plurality of different services to a respective communication target based on receiving a request for one of the plurality of different types of services from a respective communication target, the plurality of different services being one of a fixed location spot beam, a fixed location time-shared spot beam, and a mobile dedicated spot beam.

15. (New) The communication path processing system of claim 1, wherein the phased array antenna generates beam spots that are about 0.9 degrees to about 1.0 degrees in angular diameter.

16. (New) The communication system of claim 9, wherein the single first communication target is operative to redirect its respective cell to a different communication target.

17. (New) The communication system of claim 16, wherein the single first communication target is operative to redirect its respective cell for one of a predetermined time and until a command to return back to the first communication target is received by the antenna controller.

18. (New) The communication system of claim 9, wherein the plurality of mobile cells are created from a phased array focusing technique to generate beam spots that are about 0.9 degrees to about 1.0 degrees in angular diameter.